33343-01 WE) CLAIM:

A process for the preparation of a coated pesticidal matrix which process comprises:

- a) preparing an aqueous mixture comprising a pesticidal agent, a pH-dependent/polymer, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhance fr, optionally a glidant, and water, provided that the /pH of the aqueous mixture is below the solubilization pH/of the pH-dependent polymer; and
- b) drying the aque of step (a) to produce the coated pesticidal matrix.
- The process according to claim 1 wherein the 1 plasticizer is present in the aqueous mixture. 2
- The process according to claim 1 wherein the 1 activity enhancer is present in the aqueous mixture. 2
  - The process according to claim 1 wherein the ultraviolet profector is present in the aqueous mixture.
- 5. The /process according to claim 1 wherein the pesticidal agent is selected from the group consisting of 2 an insecticide, an acaricide, a nematicide, a fungicide and a herbicide and mixtures thereof.
- The process according to claim 5 wherein the 1 insectici/de agent is a chemical or a biological 2 3 insectic/ide.

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mixtures thereof.

- 7. The process according to claim 6 wherein the chemical insecticide is selected from the group consisting of chlorfenapyr, hydramethylnon, imidacloprid, 1-(6-chloro-3-pyridyl)-2-(nitromethylene)imidazolidine, fipronil, and 1-[1-(p-chlorophenyl)-2-fluoro-4-(4-fluoro-3-phenoxyphenyl)-2-butenyl]cyclopropane, (R,S)-(Z)-, and
- 8. The process according to claim 6 wherein the biological insecticide is selected from the group consisting of V8vEGTDEL, V8vEGTDEL-AaIT, Heliothis zea NPV, Lymantria dispar NPV AcMNPV E2, AcMNPV L1, ACMNPV V8, AcMNPV Px1, and Bacillus thuringiensis, and mixtures thereof.
- The process according to claim 1 wherein the 1 pH-dependent polymer/is selected from the group 2 consisting of an ethyl acrylate/methacrylic acid 3 4 copolymer, a methy/ methacrylate/methacrylic acid 5 copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate cop $\phi$ lymer, and mixtures thereof; the 6 plasticizer is selected from the group consisting of a 7 poly(ethylene g/lycol), a poly(propylene glycol), a citric 8 acid ester, diethyl phthalate, dibutyl phthalate, castor 9 10 oil, triacetin, and mixtures thereof; the ultraviolet protector is selected from the group consisting of carbon 11 black, a ben/zophenone, a dye, titanium dioxide, and 12 mixtures the reof; the activity enhancer is a stilbene 13 compound; and the glidant is selected from the group 14 consisting of talc, magnesium stearate, calcium stearate, 15 calcium sulfate, and mixtures thereof. 16
- 1 10 / The process according to claim 9 wherein the 2 pH-dependent polymer is selected from the group

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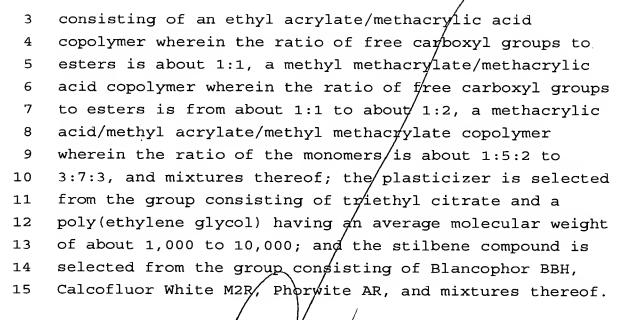
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- 1 11. The process according to claim 1 wherein the 2 pH-dependent polymer is a methyl methacrylate/methacrylic 3 acid copolymer and is partially solubilized with base.
  - 12. The process according to claim 11 wherein the base is selected from the group consisting of ammonium hydroxide, an alkali metal hydroxide, and an alkaline earth metal hydroxide.
  - 13. The process according to claim 1 wherein in said drying step the aqueous mixture is spray dried.
  - 14. The process according to claim 1 wherein the coated pesticidal matrix has a particle size less than about 20  $\mu\text{m}$ .
  - 15. The process according to claim 14 wherein the coated pesticidal matrix has a particle size of about 2  $\mu m$  to 10  $\mu m$ .

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1 16. The process according to claim 1 wherein the
2 -coated pesticidal matrix comprises about 1 to 50% by
3 weight of the pesticidal agent, about 5 to 50% by weight
4 of the pH-dependent polymer, 0 to about 25% by weight of
5 the plasticizer, 0 to about 30% by weight of the
6 ultraviolet protector, 0 to about 75% by weight of the
7 activity enhancer, and 0 to about 15% by weight of the
8 glidant.

17. A coated pesticidal matrix which comprises about 1 to 50% by weight of a pesticidal agent, about 5 to 50% by weight of a pH-dependent polymer wherein a substant all number of the free carboxylic acid groups in said polymer have not been converted to their salt form, 0 to about 25% by weight of a plasticizer, 0 to about 30% by weight of an ultraviolet protector, 0 to about 75% by weight of an activity enhancer, and 0 to about 15% by weight of a glidant.

18. The coated pesticidal matrix according to claim 17 which comprises about 5 to 35% by weight of the pesticidal agent, about 10 to 45% by weight of the pH-dependent polymer, 0 to about 25% by weight of the plasticizer, 0 to about 20% by weight of the ultraviolet protector, 0 to about 45% by weight of the activity enhancer, and 0 to about 10% by weight of the glidant.

19. The coated pesticidal matrix according to claim 17 wherein the pH-dependent polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof; the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric

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- 9 acid ester, diethyl phthalate, dibutyl phthalate, castor
- oil, triacetin, and mixtures thereof; the ultraviolet 10
- 11 protector is selected from the group consisting of carbon
- black, a benzophenone, a dye, titaniam dioxide, and 12
- 13 mixtures thereof; the activity enhancer is a stilbene
- compound; and the glidant is seledted from the group 14
- consisting of talc, magnesium stéarate, calcium stearate, 15
- calcium sulfate, and mixtures thereof. 16

The coated pesticidal matrix according to claim 19 wherein the pH-dependent polymer is selected from the

group consisting of an ethy/1 acrylate/methacrylic acid

copolymer wherein the ratio of free carboxyl groups to

5 esters is about 1:1, a\_methyl methacrylate/methacrylic 6

acid copolymer wherein the ratio of free carboxyl groups

to esters is from about 1:1 to about 1:2, a methacrylic 7

acid/methyl acrylate/methyl methacrylate copolymer 8

wherein the ratio of monomers is about 1:5:2 to 3:7:3, 9

and mixtures thereof; the plasticizer is selected from 10

the group consisting of triethyl citrate and a 11

poly(ethylene glycol) having an average molecular weight 12

of about 1,000 to 10,000; and the stilbene compound is 13

selected from the group consisting of Blancophor BBH, 14

Calcofluor White M2R, Phorwite AR, and mixtures thereof. 15

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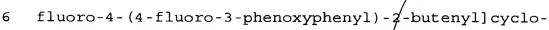
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The /coated pesticidal matrix according to claim 17 wherein the pesticidal agent is a chemical insecticide or a biological insecticide.



- The coated pesticidal matrix according to claim 21 wherein the chemical insecticide is selected from the group consisting of chlorfenapyr, hydramethylnon,
- imidaclogrid, 1-(6-chloro-3-pyridyl)-2-(nitromethylene)-4
- imidazol/idine, fipronil, and 1-[1-(p-chlorophenyl)-2-5



7 propane, (R,S)-(Z)-, and mixtures thereof.

1 23. The coated pesticidal matrix according to claim 21

- 2 wherein the biological insecticide is selected from the
- 3 group consisting of V8vEGTDEL, V8vEGTDEL-AaIT, Heliothis
- 4 zea NPV, Lymantria dispar NPV, AcMNPV E2, AcMNPV L1,
- 5 ACMNPV V8, AcMNPV Px1, and Baci/llus thuringiensis, and
- 6 mixtures thereof.

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24. The coated pesticidal matrix according to claim 17 having a particle size of less than about 20 μm.

25. The coated pesticidal matrix according to claim 24 having a particle size of about 2  $\mu m$  to 10  $\mu m$ .

26. A wettable powder pesticidal composition which comprises about 0.5 to 40% by weight of a dispersing agent; about 1 to 10% by weight of a flow enhancing agent; about 10 to 70% by weight of a bulking agent; 0 to about 25% by weight of a wetting agent; 0 to about 35% by weight of a pH-modifying agent; and about 5 to 75% by weight of a ceated pesticidal matrix according to claim 17.

27. The composition according to claim 26 which comprises about 2 to 15% by weight of the dispersing agent; about 1 to 10% by weight of the flow enhancing agent; about 10 to 60% by weight of the bulking agent; 0 to about 15% by weight of the wetting agent; 0 to about 20% by weight of the pH-modifying agent; and about 5 to 75% by weight of the coated pesticidal matrix.

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- The composition according to claim 26 wherein 2 the pesticidal agent in the coated pesticidal matrix is a 3 biological agent.
- The composition according to claim 28 which 1 2 comprises about 2 to 10% by weight of the dispersing agent; about 1 to 10% by weight/of the flow enhancing 3 agent; about 20 to 50% by weight of the bulking agent; about 2 to 20% by weight of the pH-modifying agent; and 6 about 15 to 60% by weight of the coated pesticidal 7 matrix.
- The composition according to claim 26 wherein 1 the pH-modifying agent is/an\organic acid. 2
- 1 The composition according to claim 30 wherein the organic acid is ditric acid. 2
- The composition according to claim 30 wherein 1 2 the organic acid has a mean particle size greater than 3 about 50 µm.
- The composition according to claim 32 wherein 1 the organic acid has a mean particle size greater than 2 3 about 100 µm.
- A coated pesticidal matrix produced by the 1 process of claim, 1. 2
  - A method for improving the residual control of a pest which  $\phi$ omprises applying to the locus of the pest a pesticidall pesticidal amount of a coated pesticidal matrix according to claim 34.

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